

## ABSTRACT

The present invention is aimed to provide a technique for species-specifically detecting a microorganism naturally inhabiting in the deep sea or an analog thereof, based on the characteristics of its genetic information. The present invention provides  
5 a 16S rDNA which has the base sequence of SEQ ID NO:1, an oligonucleotide probe which comprises part of the base sequence of SEQ ID NO:1 and a method for specifically detecting or identifying a bacterium belonging to *Psychrobacter pacificensis* using the probe. The oligonucleotide probe of the present invention can detect *Psychrobacter pacificensis* at a molecular or cell level at high sensitivity and high accuracy as a useful  
10 indicator organism in monitoring of the circulation of deep-layer seawater.